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Complications in the treatment of a lower jaw fracture with standard straps by the vasilev's method

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Abstract

Purpose: This study aims is to evaluate the safety and efficacy of mandibular fracture treatment by repositioning, fixation and immobilization by the Vassilev method with standard splints.

Materials and methods: A 46-year-old patient was admitted to the emergency room clinic at the St. George University Hospital with a fracture in the corner of the lower jaw on the right as a result of a beating. Surgical intervention was performed for repositioning, fixation and immobilization according to Vassilev's method. After surgery, the patient was evaluated for verification of stable fixation and reposition, by control radiography, Orthopantomography (OPG) at 24 hours, and 2 months after intervention.

Results: The results showed the primary healing of the broken lower jaw. After removal of the standard splints, are observed postoperative complications, which lead to pathological mobility and an inflammatory process in the area of the fracture line.

Conclusions: Surgical placement of the fixation device (standard splints) by the method of Vassilev leads to an adverse tissue reaction, such as an inflammatory process. This requires, after mastering this process, to apply osteosynthesis as a method of treating a fracture of the lower jaw.

Keywords: reposition, fixation, immobilization, Vasilev's method, adverse reaction

Purpose

The aim of this study is to evaluate the safety and efficacy of treatment of a mandibular fracture by repositioning, fixation and immobilization by the Vasilev's method with standard splints when observing a clinical case.

Material and methods

The patient was admitted urgently to the Clinic of Oral and Maxillofacial Surgery at the University Hospital "St. George" EAD - Plovdiv, where he underwent surgical treatment of the jaw fracture. The diagnosis is "Fracture of the mandibular complication (regio 44, 43 et 37) (cum dislokationem).

Its local extra oral status was characterized by facial asymmetry due to massive hematomas supraorbital on the left, periorbital, pterygomandibular on the left and around the body of the mandible bilaterally, with the presence of a pathological threshold on palpation of the mandibular joint with movement of the mandible and jaw. , and its local intraoral status - with painful and difficult opening of the mouth, pathological bite due to open fracture with movable fragments in the area of 43, 44, lack of dentition

Figure 1 : Initial condition

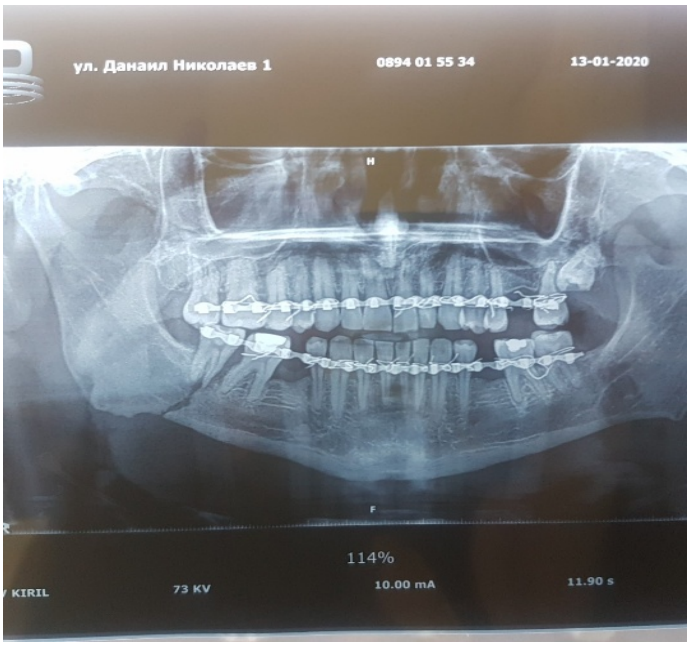

Figure 2: 24 hours after the intervention

Figure 3: 2 months after the secondary intervention

Splinting of the lower jaw with the destruction of the bone structure is used to fix the elements for proper joint treatment as soon as possible. Professional treatment is performed with the help of metal structures or plastic elements. Before fixing the broken bones, surgery is needed to restore the normal shape of the face and remove fragments.

The constructive solution is the use of Vassilev's method: The rubber bands used in this method are fastening with hooks of bronze-aluminum wire placed on the teeth. The fixing is done by rubber traction.

Important advantages - even load distribution and minimal trauma to the teeth. The rigid mounting does not allow the patient to open his mouth. Strengthens the connections with the chin. The auxiliary device prevents sagging, presses the chin from below.

The treatment of jaw fractures without splinting requires an extension of the body's recovery time.

The treatment of a jaw fracture during splinting is a method that has proven its effectiveness over the years. However, this treatment is quite long and requires maintenance drug therapy.

After an X-ray and a fracture diagnosis, it is important to ensure that the bone is still immobile. For this purpose, a rubber is used, which is required by the dentist for the entire period of treatment and allows up to 1.5 - 2 months of immobilization.

The main factor for the proper healing of any fractures is the complete immobilization of the damaged area for a long time. In case of jaw fracture, this is achieved by splinting.

While wearing the tire, the patient must follow certain rules of diet and oral hygiene. Then osteosynthesis is performed, which is a surgical tightening and fastening of individual fragments with the help of titanium screws and plates, staples, polyamide threads.

More reliable and safer way to connect bone tissue is to cover with metal plates. This procedure is performed under general anesthesia. After all parts of the broken bone have been collected and mapped, the rubber is applied. At the bend of the lower jaw, splinting of whole parts of the bone tissue appears and is tightened with strong rubber bands. Splinting of whole parts of the bone tissue appears at the bend of the lower jaw and tightens with strong rubber bands.

Results

The patient was re-admitted to the Clinic with complaints of swelling and severe pain in the face and objective findings of facial asymmetry due to swelling of the lower jaw on the right. There is also reddened skin, palpation pain, tense tissues and skin scarring in the area of swelling due to inflammation of the bone at the fracture site, defined as "Osteomyelitis traumatic mandibulae dextra".

Hospital treatment includes surgery " **Insitio extraoralis et INCILE** " under local anesthesia to clean the wound from the accumulated inflammatory exudate and antibiotic therapy.

Then the second operative intervention was undertaken - " Osteosynthesis mandibulae regio 44, 43 et 37, 38 cum ligature circumferentialis mandibulae et fixation intermaxillaris", for intermaxillary fixation in central occlusion with rigid non-removable traction by osteosynthesis..

After the treatment, a medical opinion is for a positive outcome and with instructions to the patient for daily oral hygiene.

Conclusions

In conclusion, we can say that the splinting of the fracture of the lower jaw carried out using a tape by the Vassilev's method - a standard steel structure with a thickness of about 0.3 mm and hooks attached to the teeth with aluminum wire tightly tightens the teeth and thus fixes the fracture.

Internal maxillary fixations do not allow the patient in the postoperative period to open his mouth in full. There are signs of surgery and jaw pain. The recovery period is delayed a lot and there will be a risk of various complications.

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